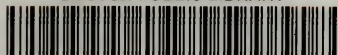


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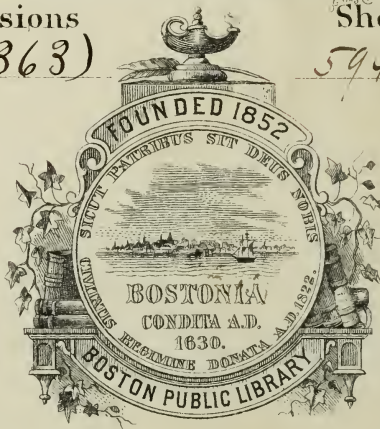
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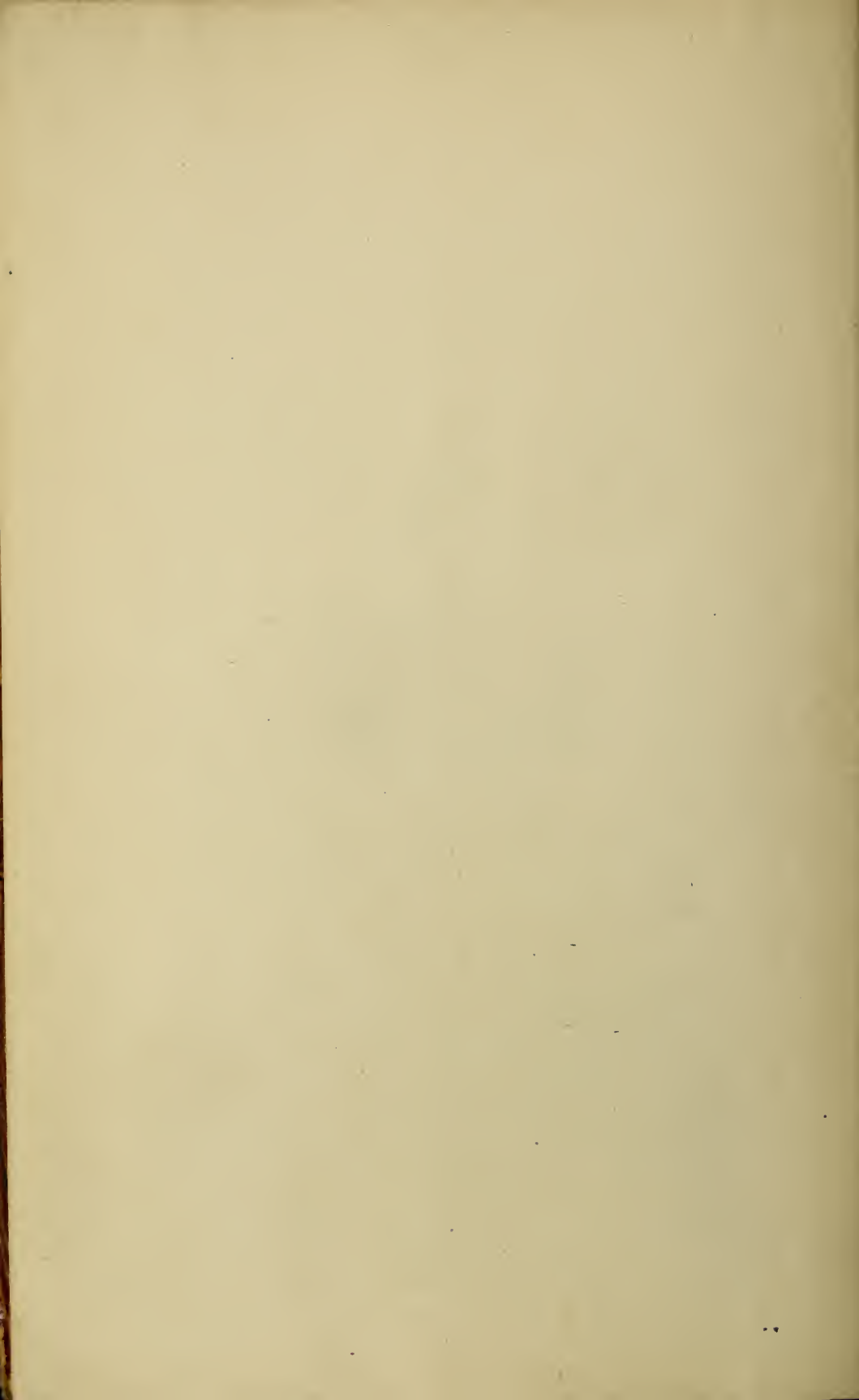
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*Gale*

THE

HAVERHILL AQUEDUCT,

ITS

History, Ownership, Management, Value,

AND

Relationships to the City.

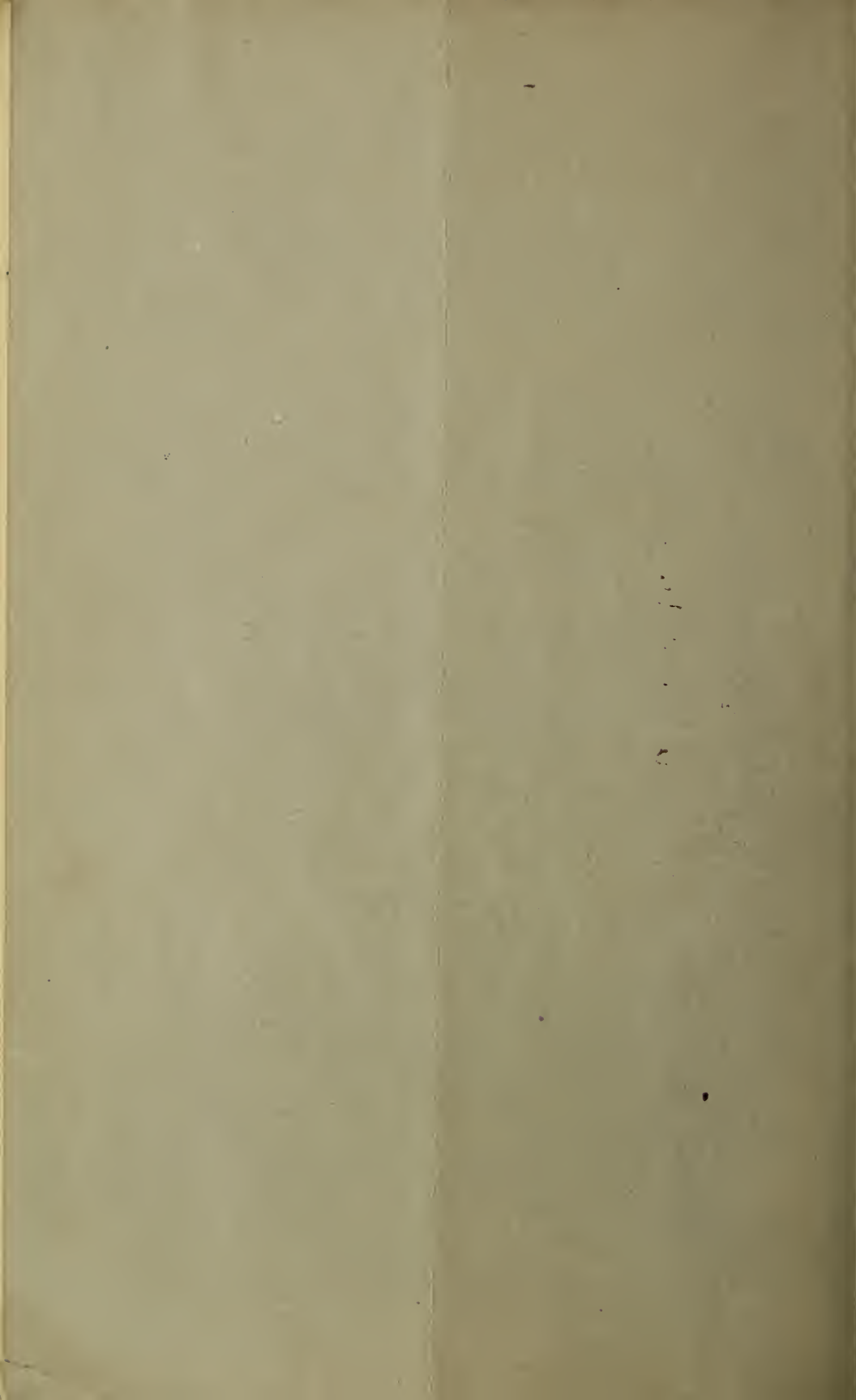
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The argument of the petitioners, made before the Committee of the City Council of Haverhill, upon the question of assuming municipal control of the Water Supply, at the hearing in City Hall, June 16, 1884.

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HAVERHILL, MASS.

1884.



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HAVERHILL AQUEDUCT,

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History, Ownership, Management, Value,

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HAVERHILL, MASS.

1884.

*Do not find,*  
*May 1, 1879*

# PETITION.

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*To the Honorable the City Council of Haverhill:—*

Respectfully represent the undersigned, that they are citizens and taxpayers of Haverhill, and payers of water rates to the Haverhill Aqueduct Company; that, as they believe that public interest requires that water should be supplied to the inhabitants of Haverhill by the city, instead of a company, wherefore they pray that your honorable body make or cause to be made a thorough investigation of the subject, including the rates, profits, and methods of business procedure of the Haverhill Aqueduct Company, and if it shall then seem expedient and desirable, take suitable measures to supply water as aforesaid, either by taking the works and rights of the Haverhill Aqueduct Company, at a valuation to be determined by three Commissioners appointed by the Supreme Court as provided by law, or by constructing and providing new works, independent of the Aqueduct Company, as may seem best.

WARNER R. WHITTIER.  
JAMES R. NICHOLS.  
A. B. JACQUES.  
J. J. MARSH.  
JAMES E. GALE.  
R. STUART CHASE.  
A. A. SARGENT.  
D. W. HOLDEN.  
JOHN B. NICHOLS.  
CHARLES W. CHASE.  
JOHN P. GILMAN.  
RICHARD WEBSTER.  
JOHN PILLING.

J. H. FARNSWORTH.  
ALGERNON P. NICHOLS.,  
S. D. MAYNARD.  
HENRY D. FITTS.  
N. S. KIMBALL.  
D. F. SPRAGUE.  
J. F. ADAMS.  
O. D. CHENEY.  
ALPHEUS CURRIER.  
MOSES HOW.  
WILLIAM D. WOOD.  
GEORGE A. KIMBALL.  
IRA A. ABBOTT.



# EARLY HISTORY

OF THE

## HAVERHILL AQUEDUCT.

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*Mr. Mayor and Gentlemen of the Committee:—*

The remarkable fact that three natural reservoirs or ponds of pure water existed almost on the top of the hills, close by the river, had much influence, undoubtedly, with the original settlers of Haverhill in the choice of location for their homes.

It was not, however, until about 1799 that any steps were taken to bring this water by gravity to the cluster of houses on the banks of the river in the fork of the roads formed by the intersection of Main Street with Water Street. At that early period, not alone iron, but even clay pipes were unknown in this country, and the only methods for the conveyance of water was by the use of wooden conductors or bored logs.

Mr. David How, who at the commencement of the present century was the leading citizen of the town, was the first to enter upon the project of putting down logs to bring water for his farmhouse from Round Pond.

His farmhouse at that period was directly back of the store now owned by George A. Kimball, and it opened on Merrimac Street, at the point where stores now stand, built by Mr. Abel Chase. Here, directly in the centre of the city, was his farmhouse, and around it were clustered his cow-yards and pig-pens.

Those living in the town in 1835 will remember the old house, as it was standing at that time. Mr. How was still living, but very old and infirm. His establishment was

regarded as a nuisance ; the dilapidated buildings were reeking with filth, and the stench from his pig-pens and stables was an annoyance to all in the little village.

To this place Mr. How was desirous of bringing water, and in 1803, with the assistance of a few neighbors, a pile of green pine logs were bored with a long two-inch auger, sufficient in number to make a line of aqueduct to Round Pond. The water was let on, but the pressure was so great the logs burst as disastrously and as often as the cement pipes put down on Pond Street, by the Aqueduct Company, in 1880.

#### ANCIENT HYDRAULIC ENGINEERING.

This was a great evil, and all the hydraulic engineering skill of the times was brought into requisition to remedy the difficulty. At last the happy idea was hit upon of making a break in the pipes half way down the hill, by digging a pit, and thus relieving the pressure. This pit was placed nearly opposite the Unitarian Church, and remained there for nearly forty years.

No water was carried higher than the first story of the houses, and no lead pipes or metallic stop-cocks were used. The logs were brought directly into the kitchens and cow-yards, and an upright, bored log, with wooden faucet, held the water for use. A curious device was used on Main Street, in the neighborhood of the North Church, to elevate the flowing water, so as to bring it into the kitchens of the dwellings.

It was found that the water would flow through the logs well enough, but it would not stop to be taken on the way ; and therefore, to remedy this evil, an upright log was interposed and bored double, so that the water was forced to ascend one tube to the top, and flow over for its passage down town. This held the water back so that customers on the level street could get a supply.

It was regarded as a great piece of engineering skill, and some elderly citizens will doubtless remember, when boys, of jumping on the log, and listening to the murmur of the water as it flowed over.

As the town grew, the two-inch logs were found insufficient to supply water, and so, about 1830, four-inch logs were substituted, and the aqueduct was extended to some of the streets intersecting with Main Street. The price charged customers in the houses and stores was two dollars a year, for as much water as they wanted for their cattle, horses, and kitchens.

#### THE "RIVER JORDAN."

An old man by the name of Jordan, well remembered by many, had sole charge of the works, and the boys were in the habit of calling the Aqueduct the "River Jordan." He bored the logs, put them down, attached faucets, made repairs, thawed out the stream when it was frozen, made out the bills, collected the money as well as he could, and kept it so far as is known. He was the one man who "run the machine," and in this respect resembled the "one-man power" which now prevails in its management.

His services were in constant demand, especially in frosty weather, and some remember, when they were boys, of being called up early in the cold gray of the morning, to hunt up "old Jordan" to thaw out the frozen logs. His house was on the corner of Main and Pond Streets, and the space now covered by the Soldiers' Monument was filled with green pine logs, and here the process of boring took place.

About the year 1840, the Aqueduct was found to be inadequate to supply water, and Charles Minot, Esq., a well-known lawyer, took it in hand, raised a little money, and extended the pipes. At this time he solicited several of the citizens to take shares in the Aqueduct at \$25 per share, the number of shares being one hundred.

With the funds obtained, he laid down some iron pipes, and put the works in better repair. In a few years Mr. Minot was called to act as superintendent of the B. & M. R. R., and the Aqueduct was purchased, to a large extent, by Hasen Haseltine, an active business man of the times. His business career was soon cut short by a failure, and among his assets was a majority of the stock of the Aqueduct, which passed into the hands of his brother, Ward B. Haseltine, of

Philadelphia, who took it, much against his inclination, as security for money loaned to his brother. Soon after this stock fell into the hands of Mr. Haseltine, J. H. Carleton obtained control of forty of the shares held by different people in the town; and thus these two men secured control of the property which they now hold.

The nominal value of the Aqueduct at this time was about \$7,000, or \$70 a share, with one hundred shares. Many of the shares were sold to the present owners at much less than this sum. No changes, as will be seen further on, occurred in the ownership for more than thirty years, until recently, or until last year, 1883.

The original number of shares of the Aqueduct Company remained undisturbed (one hundred) until about ten years ago, when a copious watering of the stock took place, so that the original one hundred shares were raised to fifteen hundred at one lift.

#### THE PAST AND PRESENT OWNERS.

Before the stock was so generously watered, the ownership stood as follows:—

Ward B. Haseltine, Philadelphia . . . 48 shares.	J. H. Duncan's heirs, 2 shares.
J. H. Carleton . . . 40 "	R. G. Walker's heirs, 1 "
Geo. Minot's heirs, Reading . . . 7 "	L. C. Wadleigh . . . 1 "
E. G. Eaton's heirs, 1 "	100 "

These shares, in some instances, were sold as low as \$25 prior to 1840. It will be seen that *eighty-eight one hundredths* were held by *two* men, and that a *majority* of the stock, fifty-five shares, was held by *two non-residents*.

Sometime about 1875, the watering of stock took place, and *fifteen hundred shares* were reported to the State Tax Commission as constituting the capital stock of the Haverhill Aqueduct Company. After this watering no changes in ownership took place until last year, when a sudden rise in valuation was made. The returns at the Tax Commissioner's office, for 1880, are as follows:—

Ward B. Haseltine, of Philadelphia, held	720	shares.
J. H. Carleton . . . . .	600	„
George Minot's heirs . . . . .	105	„
J. H. Duncan's heirs . . . . .	30	„
E. G. Eaton's heirs . . . . .	15	„
L. C. Wadleigh . . . . .	15	„
R. G. Walker's heirs . . . . .	15	„
	—	1,500 shares.

Each single share of stock was raised to *fifteen*.

The returns at the State House for May, 1883, show that during the year one hundred and twenty shares of Mr. Haseltine's stock had been sold.

Ward B. Haseltine had . . . . .	600
J. H. Carleton had . . . . .	600
Minot heirs . . . . .	105
Duncan heirs . . . . .	30
Eaton heirs . . . . .	15
Walker heirs . . . . .	15
Wadleigh . . . . .	58

These are the original owners. One hundred and twenty shares, belonging to Mr. Haseltine, were distributed to several parties in the city, whose names appear on the returns, and who are sufficiently well known.

At the date above given, May, 1883, twelve fifteenths of the whole concern was still owned by two men, and more than seven fifteenths by non-residents, who pay no taxes in the city, and who receive from the city water-takers large dividends. Several of our most estimable and respected citizens, it will be seen, own by inheritance a few shares of stock in the ancient Aqueduct. When the question is before the water-takers of the city of assuming municipal control of the Aqueduct, it is important that the citizens should know who are the owners of the property, and therefore the list is presented. It is singular that, for a period of thirty years, a majority of this stock has been owned by parties (non-residents) not known to the water-takers of the city, and to whose wealth they have been liberal contributors.

Whatever value this property has acquired since the stock was sold at \$25 a share, more or less, to the present owners, it is due to the rapid increase of the town in population and wealth, and to nothing else. No matter by whom it

might have been controlled, whether by the town, or by private individuals, the water-pipes would have been put down to meet the increased wants of the city. The city water-takers have, by their large assessments for water, paid for the Aqueduct several times during the past thirty years, and many believe that in *equity*, if not in law, it belongs to the city.

The number of inhabitants in Haverhill did not exceed 800 when the Aqueduct was first established, and in 1840 there were but about 4,500 inhabitants, including the out-lying parishes.

The water supply was so convenient, it was almost costless, and charges were very small, and water-takers were not treated unjustly or arbitrarily. Round Pond was sufficient for supplying all needs. Many remember this beautiful pond in its original fulness and freshness, before its shores were laid bare by excessive draughts upon its waters.

As the income began to increase with the growth of the town, it was used to extend the pipes after 1845. A large main from Round Pond, of common drain pipe, was laid down. This of course broke in pieces at once, and was a total failure. Without much system or knowledge, the work of digging, patching, repairing, altering, went on so continuously, for twenty years, that the streets were much of the time impassable and dangerous. The water of Round Pond soon gave out under the increased demand for water, and Plug Pond was tapped; and this, too, soon gave out.

#### AQUEDUCT LEGISLATION.

In 1867 the owners went to the Legislature to ask for increased privileges in drawing water from Kenoza Lake as well as from Round and Plug Ponds. This request was resisted in committee by many of the prominent citizens of the town, on the ground that a few individuals ought not to have the privilege of taking water from ponds so close to the town, and selling it at such prices as they might choose to ask. It was regarded as an unusual and dangerous power to grant, unless under several important restrictions.

It was urged that to bring water from natural ponds within rifle-shot of City Hall, into the city, involved no expense for artificial reservoirs, and but little for pipes; and with a rapidly growing city, the boon was too much for a few individuals to ask for, and too much for the Legislature to grant.

It was stated that one of the small ponds had been greatly injured by drawing excessively from it, and it was feared that ultimately all the ponds would be ruined by the acts of this private water company.

The designs of the petitioners were frustrated, and the Legislature gave them permission to continue to take the waters only under specific provisions and restrictions, which are as follows:—

1. The city could, under a plan provided, take the Aqueduct at any time into its control.

2. Private property and the ponds must be saved from injury by restricting the raising of the waters of the ponds above *high-water mark* or lowering them below *low-water mark*.

3. The water of no one of the ponds could be used to drive machinery.

The following is the Act of 1867, granted by the Legislature.

#### 1867. — CHAPTER 73.

An Act granting additional powers to the Haverhill Aqueduct Company. Be it enacted, etc., as follows:—

SECT. 1. The Haverhill Aqueduct Company is hereby authorized to take and use the water of Round Pond, and Plug Pond, so called, and Kenoza Lake in the town of Haverhill, to supply the inhabitants of said town with water by an aqueduct, and to enter upon, take and dig up any and all lands necessary for laying and maintaining aqueduct pipes, reservoirs, gates, dams, or other works, necessary for that purpose.

SECT. 2. All damages sustained by entering upon and taking land, water, or water rights for either or any of the above purposes shall, in case of disagreement with the parties injured, be ascertained, determined, and recovered in the same manner as is now provided in case where land is taken for highways.

SECT. 3. Said corporation may hold real and personal estate to an amount not exceeding one hundred thousand dollars.

SECT. 4. The town of Haverhill may at any time hereafter purchase or otherwise take all the franchise, right, and property of said

Haverhill Aqueduct Company at such price as may be agreed on by the parties; and in case the parties cannot agree upon the price, the Supreme Judicial Court may, upon application of either party, and notice to the other, appoint three commissioners, who shall determine the price, and whose award, when accepted by the court, shall be final.

SECT. 5. Nothing in this Act contained shall be so construed as to authorize the Haverhill Aqueduct Company to use, or authorize any other person or corporation to use, any of the water conducted through its pipes to drive machinery otherwise than by creating steam, nor to raise the water of any of said ponds above high-water mark, or to drain any of them below low-water mark.

Approved March 16, 1867.

It is well-known to hundreds of our citizens that every one of the restrictions imposed have been disregarded by this water company.

All the rights granted by the Legislature simply give this company the right to "take and use" the water of these lakes: it gives them no exclusive control; they do not and cannot own these ponds, or any other in the State, as has been persistently claimed by the parties in interest. The city in its corporate capacity can easily obtain all needed legislation to put down a new aqueduct.

#### COST OF THE PRESENT AQUEDUCT.

It has been shown that the cost of the Aqueduct to the present owners was very small when it fell into their hands. So far, it has not been shown in any legislative hearing, or in any court, that a single dollar has been raised by assessment upon the stock. It is therefore clear that the water-takers have paid the bills incurred in the extension of the Aqueduct, as the city has increased in population. A debt was incurred when the "high service" was constructed, in 1879-80, and some bonds were issued, which the Water Supply Committee of the Legislature declare were illegally issued.

The present Aqueduct is a kind of patchwork, much of it put down under peculiar conditions and circumstances; and therefore what it cost, probably nobody knows.

Satisfactory knowledge of its value is secured by knowing what a new plant covering the same territory can be con-



structed for. Upon this point positive information has been secured through hydraulic engineers and pipe manufacturers in various parts of the country. It is claimed by some of the aqueduct parties that they have put down thirty miles of water pipes of various sizes ; but a competent engineer, who has gone over the ground, estimates them at about twenty miles, and this is probably nearly correct.

Among the responsible parties who have made offers to construct an aqueduct is the Warren Foundry and Machine Company of New York, one of the most reliable concerns in the country. Four years ago, in 1880, they offered to contract to put down an aqueduct in this city, upon the following terms per mile for the various sizes of pipes.

The iron pipe was to be of the best quality, brought here, and laid in the best manner ready for the water to be let on. The contract price was as follows :—

For 16 inch iron pipe, 130 lbs. to the foot put down	\$2.50	per foot.
For 12 " . . . . .	1.78	" "
For 10 " . . . . .	1.40	" "
For 8 " . . . . .	1.05	" "
For 6 " . . . . .	.75	" "
For 4 " . . . . .	.56	" "
For 3 " . . . . .	.45	" "

This gives per mile, 5,280 feet, a cost for

16 inch pipe laid down . . . . .	\$13,200.00	per mile.
12 " " " " . . . . .	9,398.00	" "
10 " " " " . . . . .	7,392.00	" "
8 " " " " . . . . .	5,544.00	" "
6 " " " " . . . . .	3,960.00	" "
4 " " " " . . . . .	2,956.00	" "
3 " " " " . . . . .	2,376.00	" "

A careful survey of the Haverhill Aqueduct through all the streets of the city, and the various sizes of pipes used, with sixteen-inch pipes to the North Church from the ponds, gives as the cost of laid pipes for a new aqueduct covering the same territory, carrying water in front of every taker's door, \$98,347. In this estimate, based on actual contract prices, a margin is allowed which would probably be found too liberal in practical work. Add to these figures the cost of pumps, pump-house, real estate, hydrants, etc., correspond-

ing with those of the Haverhill Aqueduct Company, estimates made by competent engineers, and it is certain that new works can be constructed by the city at a cost not exceeding \$138,500.

The new water works at Wakefield, Mass., erected under the supervision of Percy M. Blake, Esq., civil engineer, have cost \$189,000. They have twenty-two miles of pipes, and very elegant and costly brick pump-houses, dwelling house, and other brick structures, and the pipes have been very expensive to put down, owing to the nature of the ground, it being in many places solid ledge. Their stand-pipe is very large, being forty feet in diameter, sixty feet high, and holding 530,000 gallons. The water-pipes are mostly iron cemented. A new Haverhill Aqueduct would be much superior to the present one, as it would be built systematically, and the size of the pipes would be suited on all the streets to the demands for water. The prices for iron pipes were never lower than at the present time.

#### COST OF WATER WORKS IN OTHER CITIES.

The cost of aqueduct systems in other cities near us is in striking contrast with the cost here, in consequence of the remarkable provision of nature giving us water so near to the consumers.

The cost of the Lawrence Water Works, up to January, 1884, was \$1,762,832.24. The total cost of the Salem Works, up to the same date, was \$1,413,160.54; Springfield, Mass., \$1,276,915.19; Lowell, not far from \$1,700,000.

There is probably no city in the country that has so favorable facilities for obtaining water from ponds and rivers as Haverhill; and as the ponds are situated on high ground above the city, gravity, without much cost for pumping, brings it to our dwellings.

Up to the time of introducing the Worthington pump at Kenoza Lake, in 1880, the cost to the Haverhill Aqueduct Company of bringing water to the city was practically nothing. Nearly the whole revenue was available for dividends. But we have been told that the company has never paid dividends!

## PURITY OF THE WATER SUPPLY.

During the period when the wants of the city for water were met without greatly exhausting the ponds, as has been done during the past five or ten years, no city had purer water than Haverhill.

From extended and careful inquiry in this country and Europe, it is certain that no city on either continent has more remarkable facilities for water, up to a certain limit, than Haverhill. This limit, so far as the ponds can supply, was reached more than five years ago, and what is now drawn from them, except late in winter and spring, is not only greatly to their injury, but the water is unsuited to domestic uses.

Frequent chemical analyses of the water of these ponds has been made at intervals during the last thirty years, and one is surprised at the rapid change which has occurred. During the past three summers, in August, September, and October, the solid matter, organic and inorganic, in Plug Pond and Kenoza Lake, has reached as high as forty-seven grains in the imperial gallon. Twenty years ago, it was as low as seven grains.

The change results from rapid accumulations of vegetable and animal growths in ponds drawn to a low point, especially those near cities. There is no hesitation in saying that if these ponds are continuously drained to the lowest possible point, or as low as during the past four summers, the water will become unsuited to culinary uses, and disease will result. All the ponds border upon streets where there is constant travel, and the wash goes into the ponds, and the house drainage from numerous dwellings flows into Plug Pond, summer and winter.

The restrictions placed upon the Haverhill Aqueduct Company by the Act of 1867 were wise, and such as should be faithfully observed.

The Aqueduct Company, as is well-known, went to the Legislature the present year, and asked to have the Act of 1867 rescinded, so that it might draw these low-stage, impure waters, without liability of prosecution, and deliver them to the city water-takers.

The Legislature refused this petition, and passed an Act

compelling the company to go at once to Crystal Lake for pure water. It is required that it shall within one year proceed to take this water, and within two years deliver it to the city of Haverhill. It was not the intention of this company to tap this lake for many years, as was shown at the legislative hearing, by the testimony of our respected and venerable fellow-citizen, O. T. Emerson, Esq., that the treasurer stated to him that he should not go to Crystal Lake for at least ten years. Large dividends would seem to be of more importance to this company than a supply of pure water to the city of Haverhill.

#### THE OWNERS' VALUATION OF THE AQUEDUCT.

A reliable method of ascertaining the Aqueduct Company's valuation is by examining the returns made to the State Tax Commission at the State House in Boston, during the past twenty years, by the Aqueduct Company. Some important information is thus obtained. Annual statements and exhibits are required by law to be made by every corporation doing business in the commonwealth, and the law requires returns to be made under oath, by the treasurers of each corporation. The returns of the Haverhill Aqueduct Company are sworn to by the treasurer. The following copies of returns made for 1875, 1880, and 1883, will serve to show the form of the returns on file in the Tax Commission office.

#### TAX RETURN FOR 1875.

Haverhill, May 18, 1875.

HON. CHARLES ADAMS, JR., *Tax Commissioner* :

SIR :— I (name), treasurer of the Haverhill Aqueduct Company, hereby return that on the first day of May, A. D. 1875, said corporation had its place of business at Haverhill.

Its capital stock was \$150,000.

The whole number of its shares was \$1,500.

The par value of each share was \$100.

The market value of each share was no market value.

The value of the real estate owned by the corporation within the State was \$15,900.00

The value without the State was none.

The value of machinery within was \$1,000.00.

## TAX RETURN FOR 1880.

HAVERHILL, May 10, 1880.

HON. DANIEL A. GLEASON, *Tax Commissioner* :

SIR:—I (name), treasurer of the Haverhill Aqueduct Company, hereby return that on the first day of May, A. D. 1880, said corporation had its place of business at Haverhill.

Its capital stock was not fixed.

The whole number of its shares was \$1,500.

The par value of its shares was not fixed.

The market value of each share was no market value.

The value of real estate was \$11,000.

The value of machinery was \$11,000.

## TAX RETURN FOR 1883.

Number of shares . . . . .	\$1,500
Par value of same . . . . .	300,000
Estimated value per share . . . . .	133
Value of real estate . . . . .	15,150

These returns are important for the city to become acquainted with, before negotiations are entered upon for taking the Aqueduct in accordance with the Act of 1867. They show the value put upon the property for purposes of taxation by the owners, and as they are attested to under oath, cannot be repudiated.

In 1875, nine years ago, the capital stock was \$150,000, and the par value of each share \$100. The shares "had no market value." Five years later, in 1880, the capital stock "was not fixed." The par value also "was not fixed," and the shares "had no market value." Three years later, in 1883, the par value jumps to \$300,000, the number of shares remaining the same, viz., 1,500. The estimated value of each share was \$133. As the law requires the returns made of value of shares in corporative stocks to be based on the latest market value, as learned from the latest sales, it is to be presumed the sales made in 1883 were made at \$133 per share. If the shares were sold for more than \$133 per share, the returns are erroneous, and require to be corrected, as taxation is influenced by the returns.

The State taxes paid by the Haverhill Aqueduct Company each year since 1874, as ascertained from official sources, are as follows:—

Taxes paid in	1875	\$863.18	Aqueduct valuation,	\$75,000	
"	"	1876	737.28	"	75,000
"	"	1877	735.73	"	75,000
"	"	1878	1,285.35	"	100,000
"	"	1879	1,444.14	"	100,000
"	"	1880	1,967.87	"	150,000
"	"	1881	1,888.88	"	150,000
"	"	1882	2,090.30	"	150,000
"	"	1883	2,514.09	"	200,000

These figures as regards taxation are very important for the city to become acquainted with, as they show the value placed upon the aqueduct property by its owners, at various dates in its history. The taxes paid prior to 1875 are quite small, and up to 1880, as will be seen, they remained small, when contrasted with the outside claims as to the value of the property. A sudden jump occurs in 1880, and another last year, 1883. The reasons for these jumps are easily understood by those who are acquainted with aqueduct management, and will be explained at the proper time. Considered as a whole, the tax returns are remarkable in many particulars, and may give rise to important inquiries in connection with State taxation, a matter, however, not pertinent to the inquiries now before us.

The following is the statute under which corporation tax returns must be made.

#### ACTS OF 1865, CHAPTER 283.

SECT. 3. Every corporation chartered by this Commonwealth, or organized under the general laws, for purposes of business or profit, having a capital stock divided into shares, excepting banks of issue and deposit, and except those specified in Section 8, shall annually, between the first and tenth day of May, return to said commissioner, under the oath of its treasurer, a complete list of its shareholders, with their places of residence, the number of shares belonging to each on the first day of May, the amount of the capital stock of the corporation, its place of business, the par value and the market value of the shares on said first day of May. Such return shall, in the case of stock held as collateral security, state not only the name of the person holding the same, but also the name of the pledger and his residence. The returns shall also contain a statement in detail of the works, structures, real estate, and machinery *owned* by said corporation, and *subject to local taxation within* the Commonwealth, and the location and value thereof. . . . Shall also return the amount, value, and

location of all works, structures, real estate, and machinery owned by them, and *subject to local taxation without* the Commonwealth.

#### INCOME OF THE AQUEDUCT COMPANY.

The Aqueduct Company being a close corporation, making no reports or statements of its business transactions, it has been difficult to obtain absolute facts respecting the income derived from water-takers. Through the numerous legislative hearings, and the confidential statements of those "inside the ring," very reliable information has, however, been secured.

At the last legislative hearing before the Water Supply Committee, it was made known that there are 3,000 water-takers in the city. As the least tax paid by any water-taker is \$5.00, it follows that if all paid that small sum, the annual income would be \$15,000; but hundreds of water-takers pay from \$30 to \$200 per year. Very careful estimates have been made, and it is safe to assume that the annual income of the Aqueduct Company is \$40,000 at the present time. The fact was brought out at the legislative hearing in 1867 that the annual income at that period was \$30,000, so that with the great increase of population, it is probable the estimated income (\$40,000) for 1883 is too low.

On the basis of an average income of \$35,000 per year since 1867, when the Act was passed authorizing the city to assume control of the water supply, the water-takers have paid to the treasurer of the Aqueduct Company \$560,000 in cash for water.

During the twelve preceding years, going back to 1855, assuming the annual income to have aggregated \$20,000 for that period, it is shown that the additional sum of \$240,000 was paid by water-takers to the treasurer for water, making the aggregate for the past twenty-eight years the sum of \$800,000. This amount seems large, but if the company have any accurately kept books or accounts, and they are placed in the hands of an expert accountant for examination, it is believed that the estimates will be found too low, rather than too high.

The annual expenses incurred in maintaining the Aqueduct in this city may be stated as follows. The amounts paid for salaries may be much larger, as in such a company there is no check to salary grabs.

Office rent . . . . .	\$ 300
Salary of superintendent . . . . .	1,000
Salary of treasurer . . . . .	1,500
Men and materials for repairs . . . . .	2,500
Incidentals . . . . .	500
	<hr/>
	\$5,800
Add to these expenses state taxes . . . . .	2,150
Fuel and engineer . . . . .	1,800
	<hr/>
	\$9,750

In round numbers, \$10,000 must meet all expenses of the Haverhill Aqueduct Company incurred annually during the past four years. Estimating them at \$10,000, and deducting this amount from the assumed income, \$40,000, and we have the large sum of \$30,000 for the net yearly income of the Haverhill Aqueduct Company. As one example of what it costs other cities for annual maintenance, the city of Lynn may be cited. The water works of the city of Lynn cost, up to January, 1884, \$1,136,408, and they have seventy miles of pipes, and distribute water to eight thousand families. The whole cost of maintenance in 1882, including salaries, repairs, coal, etc., was only \$12,577.04, *and they pump all their water.* It is therefore certain that the estimates of maintenance of the little Haverhill Aqueduct, as presented, are excessive, but we give the company the benefit of the estimate.

#### HIGH WATER RATES OF THE HAVERHILL AQUEDUCT COMPANY.

In carefully examining official schedules of the water rates of twenty-seven cities and towns, there was included in the six New England States, Lawrence, Lowell, Salem, Springfield, Lynn, Newburyport, Worcester, Newton, Melrose, Fall River, Fitchburg, Providence, Taunton, Manchester, N. H., Concord, Portsmouth, Lewiston, Me., Bangor, Portland, Auburn, etc.



The prices for aqueduct water in all these places vary considerably, and are to a large extent based upon cost of water works, and local causes which reasonably influence prices.

Where the works cost enormously high and the water-takers are limited and scattered, as at Newton, Newburyport, Melrose, etc., the water rates are higher than in other places more favorably situated. In studying these rates, it is often noticeable that one or more items or charges are exceptionally high ; for example, in Newton, Mass., the charge for one horse in private stable is \$5.00, for the second, \$3.00.

Bangor, Lynn, and Fitchburg charge the same, while Concord, N. H., Holyoke, Lewiston, Me., only charge \$2.00 for a horse, including water for stable purposes.

The Haverhill Aqueduct Company charges \$3.00 for each horse in private stables. (See schedule.)

The charges for water should be based on the cost of procuring it and the facilities for delivering it.

If any city or town in the United States is fairly entitled to CHEAP WATER, that city is Haverhill.

Haverhill should have its water, not after the high rates charged in Lawrence, Lowell, Springfield, Salem, and other neighboring cities, where the water works have cost millions of dollars, and where every gallon is raised into costly reservoirs by pumping. The rates should be adjusted so that the owners (if a private company), can have a generous return (say 8 per cent) on the capital invested. The rates in this city do not appear to be adjusted on this basis.

In comparing the water rates of Haverhill with other cities and towns, it is desirable to find cities with which a perfectly just comparison can be made. Perhaps the city of Lewiston, Me., presents the best example.

The city of Lewiston has a population corresponding with Haverhill, 21,000, and it also corresponds in its rapid growth. The water works are owned by the city, and cost \$297,000 independent of water rights. The water is pumped from the Androscoggin River by two Worthington pumps into a distributing reservoir holding 12,000,000 gallons. There are twenty-four miles of pipes (street mains) and 2,500 water-takers. The gross receipts from water taxes in 1883 was

\$28,000, and the annual running expenses are a little less than \$5,000. The works were erected in 1876.

It is desired, Mr. Mayor and gentlemen of the committee, to call your special attention to the cost and management of the Lewiston water supply under municipal control, as it affords many instructive facts for consideration.

Lewiston has the same population as Haverhill, with five sixths as many water-takers; its water works cost double, and the annual revenue is about four fifths as much. What are the comparative charges for water in the two cities? It is clear, under the circumstances, that Haverhill should have the cheapest water; does it?

The first items on the Haverhill Aqueduct Company's schedule of water rates are as follows:—

Each family not exceeding THREE . . . . .	\$5.00
Each additional person . . . . .	1.00

Lewiston, Me. :—

Each family not exceeding SEVEN . . . . .	5.00
Each additional person in family . . . . .	.50

A family of *seven* persons in Lewiston pays only \$5.00 for water; in Haverhill it pays \$9.00. Below are some of the leading charges in the two cities placed in line for comparison.

LEWISTON.

Family of seven . . . . .	\$5.00
Water closet . . . . .	1.50
Self-closing urinal . . . . .	1.00
One bath-tub . . . . .	2.00
Private stable, each horse . . . . .	2.00
Street hose $\frac{3}{8}$ inch nozzle . . . . .	2.00
Barbers' shops, two chairs . . . . .	5.00
Photograph rooms . . . . .	\$8.00 to 15.00
Stores . . . . .	5.00 to 10.00
Saloons . . . . .	5.00 to 15.00

HAVERHILL.

Family of seven . . . . .	\$9.00
Water closet . . . . .	5.00
One bath-tub . . . . .	3.00
Self-closing urinal . . . . .	3.00
Each horse . . . . .	3.00
Hose, street-sprinkling . . . . .	\$10 to 25.00
Barbers' shops, two chairs . . . . .	10.00
Photograph rooms . . . . .	10.00 to 40.00
Stores . . . . .	5.00 to 50.00
Saloons . . . . .	10.00 to 50.00

In Lewiston, the annual charge to a private family in no case exceeds \$20.00; that is, twenty dollars is the highest charge, no matter how many faucets or bath-tubs or water-closets, a private family may have in their dwelling.

This form of charge (not known in Haverhill) materially influences prices to dwellings where charges are made for separate faucets, etc., and should be kept in view when contrasting prices in this city and elsewhere.

If Lewiston has not become bankrupt by its low water-rates, what must we think of the wealthy owners of the Haverhill Aqueduct?

LEWISTON, May 6, 1884.

DEAR SIR:—Our water works pay all running expenses and the interest on the water debt, the debt itself being met as it matures by a small sum added each year to the water supply fund.

Yours truly,

JOHN REED, *Superintendent.*

The managers of the Haverhill Aqueduct, in fixing upon only *three* persons as the basis of a family, show their usual cunning. Most persons scrutinize the amount charged more closely than they do the extent of the privileges conferred. "Five dollars is cheap enough for a family," one might say; not regarding the fact that the number of families that have only *three* in them is exceedingly limited. The census returns show that families average from five to seven, and therefore the moderate rates favor but a narrow circle. As a general average of families, the number may be put at *six* persons, and this is the number fixed upon by many aqueduct companies in their schedules.

The annual charges for families, without regard to the number of persons, or number of faucets, or bath-tubs, or sinks, or water-closets, etc, are as follows in the cities named:

Cambridge, Mass., . . . . .	\$18.00
Lynn, " . . . . .	25.00
Fitchburg " . . . . .	20.00
Newton " . . . . .	25.00
Lawrence " . . . . .	20.00
Taunton " . . . . .	22.00
Fall River " . . . . .	22.00
Lewiston " . . . . .	20.00

Cambridge charges \$26.00 for a family, and *private stable with four horses*. Lawrence, for the family and four horses, \$27.00.

Let us compare the cost for water in families of six persons in Haverhill and the large cities near us. This affords a view of the water taxes for families in moderate circumstances, who have no expensive fixtures in their dwellings.

Water for a family of six in Haverhill costs \$8.00: what does it cost in Salem, Mass.?

Salem, Mass. — Family not exceeding four . . . . .	\$3.00
Each additional person . . . . .	.50

A family of six in Salem has water for \$4.00. The Haverhill Aqueduct Company's charges are just double. What does it cost in Lawrence, Mass.?

Lawrence, Mass. — Family of five or less . . . . .	\$5.00
Each additional person . . . . .	.50

A family of six in Lawrence pay for water \$5.50. Haverhill rates nearly half as much more. What does it cost in Lowell?

Lowell, Mass. — Family not exceeding six . . . . .	\$6.00
Each additional person . . . . .	.50

A family of six persons in Lowell pay \$6.00. Haverhill rates thirty-three per cent higher. What does it cost in Lynn, Mass.?

Lynn, Mass. — Dwelling house occupied by one family, six or more . . . . .	\$6.00
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Haverhill thirty-three per cent higher.

In cities where, owing, to local causes, the water rates are excessively high, like Springfield or Newburyport, the rates in this city are relatively higher. These cities charge \$8.00 per year for a family, *number not limited*. It costs in Haverhill \$8.00 for a family of only *six* persons. The family rates do not in any case include bath-tubs, wash-bowls, water-closets, etc.

Compare the water rates in this city with other cities near us, for dwellings in which are bath-tubs, water-closets, etc.

## Dwelling in Haverhill for six inmates :—

Water for dwelling . . . . .	\$8.00
First water-closet . . . . .	5.00
Second „ „ . . . . .	3.00
Heating apparatus . . . . .	1.00
Bath-tub . . . . .	3.00
	<hr/>
	\$20.00

Contrast these rates with Springfield, Mass., where the rates are regarded as exceptionally high.

Dwelling, number of inmates <i>without limit</i> . . .	\$8.00
First water-closet . . . . .	4.00
Second „ „ . . . . .	2.00
Heating apparatus, no charge.	
One bath-tub . . . . .	4.00
	<hr/>
	\$18.00

## Salem, Mass. :—

Dwelling with six inmates . . . . .	\$4.00
First water-closet . . . . .	5.00
Second „ „ no charge.	
Bath-tub . . . . .	5.00
Heating apparatus, no charge.	
	<hr/>
	\$14.00

## Lawrence, Mass. :—

“In no case is the annual charge for water (without regard to fixture) to a private family, to exceed twenty dollars.”

There is good reason for high water rates in small towns where the supply is brought from a considerable distance, and where the population is scattered. The town of Melrose, Mass., furnishes a good example. This town is supplied from Spot Pond. The works cost, with about twenty miles of pipes, up to January 1, 1884, \$185,697.47. There are only 1,176 water-takers, scattered over a wide territory.

## Melrose, Mass. :—

Dwelling, one family, first faucet . . . . .	\$6.00
First water-closet . . . . .	5.00
Second „ „ . . . . .	3.00
Bath-tub . . . . .	5.00
Heating apparatus, no charge.	
	<hr/>
	\$19.00.

This statement shows that the water charges of the Haverhill Aqueduct Company, for household use, are excessive when contrasted with an aqueduct with about one third the income and a plant costing considerably more.

The water rates of the city of Lowell correspond very closely with those of Lawrence, and twenty other cities and towns, the water rates of which have been carefully examined.

The charge of the Haverhill Aqueduct Company for water for heating apparatus in dwellings is a specialty with this company. It is a tax enforced by only one other company so far as investigations have been made.

**COMPARATIVE COST FOR STORES, SHOPS, MANUFACTORIES, ETC.**

Salem. — For each store, warehouse, shop, etc., from	\$3 to \$25.00
Lawrence. — Offices, stores, etc., hopper water-closet,	4.00
Set wash-bowl . . . . .	2.00
Sinks and urinals, each . . . . .	3.00
Lynn, Mass. — Stores, offices, warehouses, etc., (not including manufactories or workshops,) one faucet . . .	\$5.00
Markets, saloons, restaurants, workshops, from	\$6 to 25.00
Springfield, Mass. — Offices in blocks having water, each . . .	2.00
Stores each . . . . .	4.00
Manufactories, with water-closets and urinals, for each employee . . . . .	.75

**HAVERHILL WATER RATES.—(See Schedule.)**

Stores, from . . . . .	\$5 to \$50.00
Shoe manufactories . . . . .	10 to 100.00
Photograph rooms . . . . .	10 to 40.00
Shoemakers' shops (five teams) . . . . .	15.00
Barbers' shops (two chairs) . . . . .	10.00

Compare the last charge, "Barbers' shops," with the prices in other cities:—

**BARBERS' SHOPS, TWO CHAIRS.**

Haverhill . . . . .	\$10.00
Lawrence . . . . .	4.00
Lowell (four chairs) . . . . .	6.00
Taunton . . . . .	6.00
Springfield . . . . .	4.00
Lewiston . . . . .	5.00
Manchester, N. H. . . . .	6.00

Barbers wield professionally a rather sharp implement, and the managers, after such an exhibit, may think it best to shave themselves!

#### HOSE FOR SPRINKLING STREETS AND GARDEN USE.

Haverhill . . . . .	\$10.00 to \$25.00
Lynn . . . . .	4.00
Fall River . . . . .	6.00
Taunton . . . . .	5.00
Salem . . . . .	free
Worcester . . . . .	5.00
Newton . . . . .	5.00
Fitchburg . . . . .	5.00
Providence . . . . .	5.00
Lawrence . . . . .	2.50
Lowell . . . . .	3.00
Cambridge . . . . .	6.00

#### CITY WATER TAXES.

From the Auditor's Report of 1883, the following list of remarkable water taxes, paid by the city, is taken.

Water for the High School . . . . .	\$100.00	
"    "    Winter Street School . . . . .	100.00	
"    "    Currier School . . . . .	50.00	
"    "    Portland Street School . . . . .	50.00	
"    "    School Street School . . . . .	50.00	
"    "    Broadway School . . . . .	40.00	
"    "    Old High School . . . . .	20.00	
"    "    Primrose Street School . . . . .	15.00	
"    "    all other schools . . . . .	65.00	
	<hr/>	\$490.00
"    "    Engine Houses . . . . .	60.00	
"    "    City Stables . . . . .	33.00	
"    "    Fire Purposes . . . . .	400.00	
"    "    Street Troughs . . . . .	410.00	
"    "    Drinking Founts . . . . .	25.00	
"    "    Hydrants . . . . .	333.00	
Attendance at Fires . . . . .	50.00	
	<hr/>	1,311.00
Water for the City Hall . . . . .	50.00	
"    "    Library . . . . .	25.00	
"    for Flushing Sewers . . . . .	30.00	
"    for Puddling . . . . .	100.00	
Labor and Sundries . . . . .	39.38	
	<hr/>	244.38
Cash paid to the Aqueduct Company for 1883,		\$2,045.38

The above collection of water items forms interesting reading to the taxpayers of the city. The amount taken out of the city treasury in 1882, by the Aqueduct Company, was \$2,187.02, and the sum does not vary essentially for several of the past years. It is worth while to examine some of these items. Take the first on the list, \$100 for the High School.

The High School is in session forty weeks during the year, six days in the week, and four hours each day. This gives exactly nine hundred and sixty hours, during which the High School building is occupied in the year, and during which water is required for any purpose. The charge is therefore about eleven cents per hour for water during the time it is used in the High School building. The price for measured water in the city of Springfield is  $13\frac{1}{4}$  cents for each thousand gallons, and the price does not rise higher than twenty-five cents in sixteen towns and cities where water is sold by metre measurement; therefore, to make this charge a just one, by the Haverhill Aqueduct Company, the pupils of the High School should use eight hundred gallons of water every hour (based on Springfield prices) they are in session, summer and winter.

This calculation and this statement is presented, not with the view of casting ridicule upon the Aqueduct Company; it is a sober presentation of facts,—facts which any one can verify who will take the trouble. The High School building is heated by steam by a condensing arrangement which returns the water to the boiler, so that there is but little loss. Does the High School use four thousand, or even two thousand, gallons of water every day? That is what the city is paying for. Do the other schools in the city use the water for which they are charged? Look at the other startling items: fire purposes, drinking fountains, etc., \$1,311; \$100 for “puddling.”

The sum which the city annually pays to the Aqueduct Company for water is equal in amount to the interest on \$50,000 at present rates. For a little more than one half this sum, \$30,000, the city can put down a substantial aqueduct from the ponds to nearly or quite all the public



buildings and fountains where it is used ; and for what has been paid to this company by the city for the last thirty years, an aqueduct might be constructed from the ponds which would supply one half the city with water. These statements are not mere speculations, but are based on estimates which have been carefully considered, and which any one can substantiate.

During the time the Aqueduct Company has been drawing so heavily from the city treasury, it has been using every street for its pipes, with liberty to tear them up for construction or repairs at will. What return has been made for this great privilege? None whatever. But we are told by the managers of the water company that they have furnished water *free* for fire purposes, and that this is an unparalleled act of magnanimity (?) This might be of some account if the statement was true, which it is not. The pipes of the company are so small and the demands upon them so excessive by their customers, that they have furnished inadequate supplies of water for our engines ; the city has relied upon the river for water until last year, when it expended \$30,000 from its own treasury for suitable water pipes for fire purposes. A few years ago complaint was made by the city authorities that the aqueduct water pipes were too small, and the managers replied, "Very well ; you must pay for new pipes for our aqueduct on White and Main Streets," and the city obligingly complied with the demand ; and so it comes to pass that the city pays \$400 every year towards street pipes which were necessary for the conveyance of water to the customers of this company. A singular example of meek compliance, on the part of a populous city, with the exacting demands of an overbearing water monopoly.

The city of Newburyport pays \$6,000 annually for water for fire purposes, and this results from the fact that water was obtained with the greatest difficulty and at great expense. It is regarded as a contribution on the part of the city, to encourage a company to establish water works which it was certain would not pay without a subsidy annually from the city treasury. These works cost \$314,374.86, and the water is all

pumped from a spring three miles from the city. There are only nine hundred and thirty-six consumers, and the water rates are excessively high. There is not a single condition or circumstance connected with the water supply of Newburyport which corresponds with that of this city, and no comparison can in justice be made; and yet we hear the managers of the Haverhill Aqueduct continually referring to the high water charges for fire and other purposes in Newburyport, in order to bolster up their own exorbitant rates. They do not refer to Portsmouth, N. H., where a private company has for half a century furnished water entirely free to the city for fire purposes.

There has never been a reason, there cannot be named a reason, founded on justice, why the Haverhill Aqueduct Company should not supply to the city of Haverhill all the water needed for public uses, *free of cost*. The water belongs to the city by right; it has cost almost nothing for transportation; and the city should have had it free.

#### CONCLUDING REMARKS ON WATER RATES.

The foregoing statements present a fair exhibit of the comparative water rates in Haverhill and other cities. As regards the Haverhill Aqueduct Company, the precise copy of the published water rates presented to the Water Supply Committee at the State House in April, as its established schedule, and the official schedules furnished by water boards of the different cities have been used in making the comparisons.

Extended inquiry has been made of water boards and of water-takers in the different cities, as regards rules or customs not made clear in the official documents. In the rates for family water, in a few cities and towns, a charge is apparently made for extra faucets used; but this rule is not observed, as water-takers pay for the fixtures they use, either at the "fixed price" as a whole, or according to the schedule rates in detail.

It is to be expected that every cunning means will be resorted to, to break the force of these incontrovertible statistical facts. But the facts will remain, notwithstanding. As-

sertions have been made often enough to water-takers, that the rates in this city were the "lowest of any in the United States or the world."

The value of such assertions cannot now fail to be understood by every water-taker who can read.

#### SHALL THE CITY ASSUME CONTROL OF THE AQUEDUCT?

Yes, if it can be obtained at a fair and just price. The money paid for water, which should have gone into the city treasury years ago, to lessen the municipal debt and the burdens of taxation, has gone into the pockets of a very few individuals. Nearly one half of this money has fallen into the hands of a wealthy gentleman residing in the city of Philadelphia. Not a word can be said against Mr. Haseltine; he is a courteous gentleman, with an honorable reputation. Of course, he is quite willing to receive the water-takers' heavy contributions, so long as they meekly and uncomplainingly continue to send them to him; but is there any good reason why they should any longer continue to flow into his pockets, or those nearer home who have grown rich by this monopoly?

Beyond all question, the Haverhill Aqueduct affords a large income, and it should belong to the city of Haverhill, — to all the people, rich and poor, high and low. Every family and taxpayer should become associate owner of this valuable water supply which nature has placed so near to our workshops and dwellings.

A rich water monopoly is a dangerous institution in any city; it is a standing menace to the people. Water is a necessity, as much so as bread, and should not be controlled by one, two, or three individuals, no matter how *good* and *benevolent* they may claim to be.

Small communities like Haverhill fifty years ago might have its private Aqueduct Company, but even at that time it was not deemed safe to have the property in the hands of a few. When the Haverhill Aqueduct first brought water to the town, there were *twenty* owners of the property; indeed, all that took the water were invited to become owners, and a large number of the citizens of the town were proprietors,

up to the time when it fell into the hands, for a trifling sum, of those who at present control it.

We now have the singular fact brought clearly before us that a city of more than twenty thousand inhabitants has no control whatever over its water supply. The city, as a municipality, cannot draw a gallon of water for any purpose without obtaining the consent of a *quasi* water company.

So far as investigations have extended, it has not been found that any city in New England of the size of Haverhill, with the exception of Portland, and Bridgeport, Conn., receives its water through a private company. There are numerous small water companies supplying small communities in all the States. Our city is now large enough and wealthy enough to own and control its water, for public and private uses.

#### A FAIR PRICE FOR THE AQUEDUCT.

No one objects to paying a fair price for the Haverhill Aqueduct, but the whole city objects to paying an exorbitant and unjust price. What is a fair price? The value put upon the property by the owners, as shown in their tax returns, since 1875, averages about \$90,000. The taxes paid in 1882 were \$2,090.30, which is the amount of the state tax on \$150,000. This is the latest valuation.

This amount — *one hundred and fifty thousand dollars* — is the company's estimate of the value of the aqueduct property in 1882, as shown by the tax returns.

As no extensions or additions have been made to the works of any importance since 1882, the sudden jump in the estimate for 1883 has no justification in any increased value, and must be disregarded.

With the estimate of the owners of the Aqueduct, and reliable estimates of the cost of new works of equal extent, it is not difficult to fix upon a fair price for the aqueduct property.

New works, connecting all the ponds, with pumps, gates, hydrants, etc., can be constructed for (estimate) \$138,500. This closely corresponds with the estimate put upon the present Aqueduct by the company, as shown by state taxes

paid. A new aqueduct would, of course, be worth much more than the old one, as that has been in use many years, and is worn out; and is, in many respects, imperfect in its construction.

If left to arbitration, or to commissioners, as provided by the Act of 1867, the price would not, probably, rise higher than \$100,000, and might be put even lower, if the city vigorously defends its rights and presents all the facts in the case.

#### INCOME TO THE CITY.

If the cost of water works to be owned by the city be placed at the *highest possible point*, the property even then will be a source of income to the city. A few figures and estimates will make this matter plain. To the cost of the old aqueduct or a new one, the cost of bringing water from Crystal Lake must be added.

The rough estimate of an engineer, who has been over the ground, puts it at . . . . .	\$ 65,000
Cost of old aqueduct, or a new one to city ponds . . . . .	150,000
	<hr/>
	\$215,000
Add to this as possible increase of cost . . . . .	35,000
	<hr/>
	\$250,000

This gives as the possible cost of water works for the city, including Crystal Lake, \$250,000. The annual income at the present time from 3,000 water-takers is estimated at \$40,000. The average annual cost to the city for maintenance cannot exceed \$5,000, as has been before stated. It cost the town of Melrose but \$3,140 for maintenance last year, and the works are more extended than those of this city.

The interest on \$250,000 at 3 3-4 per cent, at which rate the city can borrow all the money it needs, is \$9,375.

Annual gross income from water taxes . . . . .	\$40,000.00
Cost of maintenance per annum . . . . .	\$5,000.00
Interest on water debt \$250,000—3 1-4 p.ct. . . . .	9,375.00
	<hr/>
	\$14,375.00
	<hr/>
Annual net income . . . . .	\$25,625.00

The present exorbitant water rates of the Aqueduct Company ought not to be continued. A prompt reduction of twenty-five per cent can be made, and the city will still have an annual net income to go into the city treasury, of more than \$15,000. A reduction of *fifty per cent* can be made, and a surplus income will remain. These calculations are made on the basis of a present income of \$40,000, and of the present population of the city; but the fact must be kept in view that the income from the Aqueduct is constantly increasing, and before 1890 it will reach \$50,000 per annum. The figures here presented are based on careful investigations, and they may be relied on as approximately correct. These estimates may be changed or modified in any reasonable way, and they will still show the advantages to the city of owning the Aqueduct. The low rate of interest for money makes the present time extremely favorable for the city, in assuming control of the water supply.

#### MANAGEMENT OF THE AQUEDUCT BY THE CITY.

No greater delusion can be entertained than that city management of the Aqueduct would be more costly, or less fair, just, and satisfactory, than under the present management. With the view of ascertaining the opinions of reliable parties residing in many different cities and towns connected with water supplies, letters of inquiry have been sent, and the replies give a verdict unanimously against private companies, and in favor of municipal control.

The city of Newton, Mass., affords a model of water supply management which is worthy of notice. The works of the city of Newton cost \$1,000,000. They have a large reservoir, seventy miles of street mains, 3,000 service pipes, four hundred and ten hydrants, and nine hundred water metres, in use. One superintendent has general charge of the works, and he acts under a Water Board consisting of three citizens, elected by the city, together with one alderman and one councilman, the five constituting the Water Board. No one but the superintendent and manager receives a salary. The water taxes are paid directly to the city treasurer.

This form of management is practically that of many cities, and is simple, safe, and effective.

If the city of Haverhill assumes control of the water supply, the expenses of maintenance and incidental expenses will be lessened by more than \$3,000. This will be due to casting out of the account the items of taxation, salary of treasurer, office rent, etc. The city can maintain the present aqueduct system at an expense of less than \$5,000 per annum.

From the figures and estimates presented as regards the past income of the Aqueduct Company, it is clear, if the city had assumed control of our water supply in 1867, when the legislative act was passed giving the municipality optional control, the clear net income resulting from the water taxes for the sixteen years, at rates enforced by the Aqueduct Company, would have been more than \$300,000. Assuming that the net income aggregated only \$20,000 per year (a sum too low), it would have placed in the city treasury \$320,000 in clean money, a sum sufficient to have paid for the Aqueduct plant, and discharged a large portion of the present city debt.

These results will astonish a large majority of water-takers, and all who have given the important matter of the water supply no special study or consideration, but it is no more than what has been actually accomplished by the city of Cambridge. In 1865, two years prior to 1867, when Haverhill should have taken control of the Aqueduct, Cambridge bought of a private company the Aqueduct that supplied that city with water, and paid for it \$291,400. Since the purchase, this amount has been paid from the surplus revenue fund of the water supply, and \$55,000 more, and the city had invested in securities December 1, 1883, additional sinking funds amounting to \$696,896.95. This is an instructive record. Cambridge has acted more wisely than Haverhill as regards its water supply.

These facts are obtained from Hon. C. W. Kingsley, president of the Water Board, and at present chairman of the Water Supply Committee of the House of Representatives.

As regards city management of water works, Mr. Kingsley

writes as follows : — “ I ’m decidedly in favor of all cities and large towns owning and managing their water works. If properly done, it will be more economical for the people, and give better satisfaction to taxpayers. Our works have, since the purchase, been in charge of a Water Board, consisting of five citizens at large, and the mayor and president of the Common Council *ex-officio*, making seven ; one citizen member is chosen every year for five years, and the president of the board must be a citizen member. This secures a continuous board, who become well acquainted with their duties. This plan has worked exceedingly well with us.”

Cambridge has eighty-five miles of street mains, supplies water to 11,765 families, besides numerous shops, stores, offices, manufactories, etc. The income in 1865, when the works were taken by the city, was \$32,367.19 ; in December, 1882, the income was \$179,391.89.

The history of the Cambridge Water Works supplies to Haverhill some instructive and valuable information, and all the details are worthy of attentive consideration.

What the Aqueduct Company has to sell is its laid water-pipes and attachments, the pump-house and pumps at Kenoza Lake, the stand-pipes, mill-rights on Mill Street, the cheap gate-houses, and a few other items of property of comparative small value.

There has been much talk about “ franchises,” “ water rights,” “ pond ownership,” etc., and it has even been claimed that Round Pond, as a distributing reservoir, had a value of some \$100,000. The absurdity of this claim is understood when it is known that the Aqueduct Company has no legal right to use either Round or Plug Ponds as storage reservoirs for the waters of Kenoza Lake. The Legislature has never granted any rights to the company to pump water from Kenoza Lake into these ponds ; and in the opinion of the best legal experts in Boston, their acts are unlawful, and for which the company should be held responsible.

In any negotiations on the part of the city, with the view of assuming control of the Aqueduct, all unjust and preposterous claims should be promptly set aside, and whatever the Aqueduct Company has to sell, which has any value, should be paid for at what it is fairly worth.



Commissioners appointed by the Supreme Court, under the following section of the Act of 1867, will not be men of wax, to be moulded or warped by interested parties, however plausible or adroit they may be. The commissioners will be men of character, of judicial fairness and firmness. The city can safely trust its interests in the hands of such a commission.

Section 4 of Chapter 73 of the Acts of 1867 reads as follows:

SECT. 4. The town of Haverhill may at any time hereafter purchase or otherwise take all the franchise, right, and property of said Haverhill Aqueduct Company at such price as may be agreed upon by the parties ; and in case the parties cannot agree upon the price, the Supreme Judicial Court may upon application of either party, and notice to the other, appoint three commissioners, who shall determine the price, and whose award shall be final.

#### CONCLUSION.

The relationships of the Aqueduct Company to this city are solely of a *business nature* ; they are not political or personal. Selling water to customers is a *business*, conducted for the purpose of *making money*, and for no other. The few men engaged in this business, some of whom have made fortunes out of it, can continue it no longer than the city permits. The city is a party in interest, having a legal right to its control at any time, and to the pecuniary benefits resulting from the business.

Can there be longer any doubt of the duty of the municipal authorities to take prompt action in this matter ? None whatever. Should personal considerations any longer influence this important question ? Are the rights and interests of the city any longer to be disregarded ?

The facts are before you, gentlemen ; they cannot be controverted ; no sophistry, no falsehoods, can crush them.









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